

Helping Your Memory Naturally

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Sleep

The practical solution to improving your memory is to optimize your sleep. Sleep plays an important role in your long-term memory and overall health. Some simple tips to help you get to sleep and stay in slumberland are:

- Listen to white noise or relaxing music. Some people find the sound of white noise or nature sounds, such as the ocean or forest, to be soothing for sleep.
- Avoid bedtime snacks, particularly grains, sugar and alcohol that can raise your blood sugar and inhibit sleep.
- Sleep in complete darkness or as close to it as possible. If there is even the tiniest bit of light in the room it can disrupt your circadian rhythm and your pineal gland's production of melatonin and serotonin.
- Even a small amount of a caffeinated beverage in the morning can inhibit sleep 14 – 18 hours later.
- Make certain you are exercising regularly. Exercising for at least 30 minutes everyday can help you fall asleep. However, don't exercise too close to bedtime or it may keep you awake. Studies show exercising in the morning is the best if you can do it.

Organic, Raw Vegetables

There is little that compares to the nutritional value of organic, raw vegetables. Specifically, low levels of folic acid, a nutrient found in green leafy vegetables, have been linked to Alzheimer's disease and the many antioxidants and phytochemicals in vegetables will help to keep your mind sharp.

Please note that while I recommend organically grown vegetables for the most nutritional benefits, if you can't find or afford them, don't use this as an excuse not to eat any vegetables. Eating any vegetables, whether they are organic or not, is much better than not eating any vegetables at all.

Avoid Sugar

You might also consider stopping or dramatically reducing your sugar intake, as it has been strongly associated with a reduction in memory capacity. If you want to perform at your top cognitive level, it is imperative to limit, if not completely avoid, sugar. High-sugar foods will disrupt your body's homeostasis and elevate insulin levels, which can promote hypoglycemia

(low blood sugar). When you are hypoglycemic your brain can be starved of glucose and some of the common symptoms can be poor concentration, inability to focus on tasks at hand, poor memory and decreased energy.

Some easy ways to avoid sugar in your diet is to cut out pop, pastries, cookies and candy, but also watch out for less obvious sources like watermelon, sweet sauces, some salad dressings and fruit juices.

Blueberries

Not only do blueberries taste good, but also they are one of the most potent antioxidant foods on the planet. They are small and densely packed with a variety of potent phytochemicals that can do wonders to normalize and improve health, including specific benefits to the brain. Blueberries have been shown to actually reverse some of the aging that occurs in the brain.

Blueberries are full of other health-promoting qualities as well, and my only caution for them is to watch how many you eat at once due to their sugar content. Other small, darkly colored berries, like cherries, raspberries, gooseberries and mulberries provide similar health benefits.

DHA

Another simple way to improve your memory is to make sure you take enough fish or cod liver oil. Your brain is made up of 60% fat and half of that fat is supposed to be DHA (docosahexaenoic acid), one of the primary fatty acids in fish or cod liver oil. DHA is preferentially taken up by the brain compared to other fatty acids, where it then enhances membrane fluidity, which in turn changes the signaling properties of neurons and affects the function of the blood brain barrier. In rats, DHA changes the expression of 23 genes in the hippocampus alone. Epidemiological studies indicate that there is an association between high fish consumption and a reduced risk of cognitive decline, while saturated fat is associated with an increase in dementia. In animal models, fish oil supplementation improves learning and memory in both young and old rats. It is imperative that if you use fish oil that it be distilled or purified in some way as fish oils can be high in toxic substances such as heavy metals.

Lecithin

While you are thinking about dietary solutions to improve your memory it would be wise to consider adding eggs (preferably organically grown) to your diet. They are loaded with vital nutrients like phosphatidylcholine and serine that have been well documented to improve your memory. Lecithin an inexpensive supplement contains high levels of phosphatidylcholine. In one study, 61 volunteers between ages 50 and 80 were divided into two groups:

41 took two tablespoons of lecithin a day, while 20 were given placebos. At the end of five weeks, the volunteers who took lecithin had "significant improvement" in memory test scores and fewer memory lapses than those who took the placebos.

In another study, 117 volunteers were divided into three groups according to their ages: 35 to 50, 50 to 65 and 65 to 80. These groups were then subdivided, with half taking 3.5 grams of a form of lecithin a day and the other half taking placebos. At the end of three weeks, those who took the lecithin recorded almost half as many memory lapses on average.

The fascinating thing about lecithin is that when it helps, it tends to help in a fairly short period of time. It is one of the few substances like alcohol, which crosses the blood-brain barrier and produces an immediate reaction.

Magnesium

As many as half of all North Americans do not consume the recommended daily amount of magnesium (400 mg). This deficit poses a major health risk, as magnesium helps build strong bones, make proteins, release energy that is stored in muscles and regulate body temperature. In addition, researchers found that helping maintain memory function in middle age and beyond may be another of magnesium's roles.

Magnesium, a trace mineral, can be found in dark green, leafy vegetables. According to studies, magnesium is important in synaptic function, which is associated with the connections among brain cells. Researchers discovered that sustaining a proper amount of magnesium in the cerebrospinal fluid is crucial for maintaining plasticity of synapses; plasticity (the ability to change) is vital to the brain's ability to learn and remember. Therefore, a loss of plasticity in the hippocampus, where short-term memories are stored, results in the forgetfulness that is common in older people.

Vitamin B₆

One study showed that over 80 percent of the healthy, independent-living, middle-income elderly surveyed in Albuquerque, New Mexico, had vitamin B₆ intakes below three-fourths of the Daily Value (the RDA for B₆ is two milligrams).

A group of researchers in the Netherlands decided to see what would happen if they added vitamin B₆ to the diets of healthy older men. First the men were given a mental test that included things such as being able to remember different objects flashed on a screen and the names and occupations of people in a list. Then one group took 20 milligrams of B₆ a day, while the others took a placebo. At the end of three months, the men were tested again. The memories of those in the vitamin B₆ group showed "modest but significant" gains, especially in long-term memory. There's a good reason

that vitamin B₆ helps memory. It helps in the production of dopamine, serotonin and norepinephrine.

The RDA of two milligrams is enough to prevent a deficiency disease but research indicates that 50 mg may be optimal. I recommend getting your B₆ in the form of a B complex vitamin. You should never take B₆ by itself without medical supervision, as amounts above 100 milligrams can cause side effects.

Vitamin B₁₂

B₁₂ deficiency causes problems in the nervous system, including burning points in the feet and mental problems such as difficulty with recent memory and the ability to calculate. A B₁₂ deficiency has even been known to change brain wave activity. People who eat a purely vegan diet are prone to B₁₂ deficiency and should have regular blood testing through their G.P.. Nearly one-third of people over age 60 can't extract vitamin B₁₂ from what they eat because their stomachs no longer secrete intrinsic factor, a substance that complexes with B₁₂ to enable absorption. If this is found to be the case I recommend sublingual B12 tablets or B12 injections.

Virtually all animal products, such as milk, cheeses, yogurt, eggs, poultry and lean beef, (organically grown is preferable) contain vitamin B₁₂. The RDA for B₁₂ is six micrograms. Optimally I recommend 500 – 1000mcg per day.

Iron and Zinc

In one small preliminary study, researchers measured the effects of mild zinc or iron deficiency on short-term memory in 34 women between ages 18 and 40, a group at risk for low levels of both minerals.

For eight weeks, researchers gave the women either 30 milligrams of zinc, 30 milligrams of iron or both or supplements containing other micronutrients. A mental test found that the short-term memories of those taking zinc or iron improved by 15 to 20 percent. Those who took iron supplements had better short-term verbal memory, while visual memory, or the ability to remember pictures, was improved by both zinc and iron.

Women who menstruate need between 2 and 2.5 milligrams of iron a day to offset loss of the mineral assuming no excess blood loss. There are many other causes of iron deficiency all of which can lead to iron deficiency anemia. The symptoms include weakness, fatigue and cognitive dysfunction. These symptoms result because of the lack of function of the red blood cells, and the reduced ability of the red blood cells to carry oxygen to exercising muscles. Iron deficiency can also affect other tissues, including the tongue and fingernails. Prolonged iron deficiency can result in changes of the tongue, as it may become smooth, shiny, and reddened. This condition is called

glossitis. The fingernails may grow abnormally, and acquire a spoon-shaped appearance.

And how does iron help memory? Pumping up your iron intake helps build those all-important brain neurotransmitters, among other things. It is important not to take iron unless you are deficient as it can cause a bevy of side effects the least of which are constipation and gastrointestinal irritation. Dietary sources of iron are beef, chicken, fish, spinach, broccoli, beans, peas, apricots and brown rice.

And how does zinc help memory? Vitamin B₆ can't do its job without zinc helping out. In the absence of zinc, active B₆ is not formed properly in the brain, and as a result, neither are key neurotransmitters. Also large amounts of zinc have been found in the brain's memory center, the hippocampus. Dietary sources of zinc are beef, chicken, fish, dairy products, beans and lentils, yeast, nuts, seeds and wholegrain cereals. Pumpkin seeds provide one of the most concentrated vegetarian food sources of zinc.

It is known that some elderly people may get less than half of the zinc that they need. The Daily Value for zinc is 15 milligrams however I recommend trying 25mg twice daily for two months – if no benefit then stop.

Vinpocetine and Ginkgo

Vinpocetine and *Ginkgo biloba* both enhance cerebral microcirculation in the brain, keeping needed energy and oxygen flowing to the brain. vinpocetine – a phytonutrient found in the periwinkle (*Vinca minor*) – is especially remarkable in this regard, as it does this *without* reducing bloodflow elsewhere in the body, through reducing the resistance of fine blood vessels within the brain. It does this by reducing excessive activity by a form of the enzyme phosphodiesterase in the brain – a mechanism similar to Viagra,[®] which affects another form of this enzyme in the penis.

Vinpocetine also supports the availability of oxygen and fuel by mechanisms not shared by *Ginkgo*. First, vinpocetine enhances the ability of red blood cells to “flex” their shape so as to more easily deliver oxygen across the blood-brain barrier – the layer of tight cell-to-cell contacts that protects the brain from a potentially toxic environment. Additionally, vinpocetine allows blood sugar to cross the blood-brain barrier more efficiently, and makes it easier for brain cells to take up and release glucose. By subjecting experimental animals to mock strokes, scientists have been able to show that these properties provide protection against brain damage that follows a stroke.

Many controlled trials have demonstrated the ability of both *Ginkgo* and Vinpocetine to support cognitive function. *Ginkgo* has also been shown to delay the onset of Alzheimer's disease in a large, double-blind, placebo-

controlled study. The standard doses are from 15 to 45 milligrams of Vinpocetine and 100 milligrams and up for standardized *Ginkgo*.

Huperzine-A

Huperzine-A, an extract of the Chinese club moss (*Huperzia serrata*), is a unique, natural, nontoxic, and highly selective inhibitor of the enzyme acetylcholinesterase (AChE). AChE breaks down the neurotransmitter (brain messenger-molecule) acetylcholine (Ach), which is central to verbal and spatial memory. By inhibiting AChE, huperzine-A prevents excessive destruction of this key memory-molecule. The only drugs specifically approved to treat Alzheimer's disease are all AChE inhibitors. However, these drugs (including tacrine (Cognex[®]), rivastigmine (Exelon[®]), donepezil (Aricept[®]), and now galantamine (Reminyl[®]) have some serious side effects, including liver damage, bloody or "coffee-ground"-like vomit, irregular heartbeat, fainting spells, seizures, depression, and hallucination. These side effects are due to the fact that these drugs either also bind to other enzymes that they aren't supposed to (such as butyrylcholinesterase (BuChE)), or because they bind in the wrong place (the liver instead of the brain), or because they bind to acetylcholine receptors in addition to Ach.

By contrast, huperzine-A has shown itself to be extremely selective for brain AChE. Other advantages of huperzine-A that make it safer or more effective than the AChE-inhibitor drugs include the fact that it targets the brain much more selectively; that it does not bind to receptors in the central nervous system; and that it keeps working for up to eight hours, which is 10 to 12 times longer than the standard forms of these drugs.

Double-blind, placebo-controlled trials in victims of Alzheimer's disease show that a daily dose of 100 micrograms of huperzine-A provides clear improvements in memory, cognitive, and behavioral parameters, working at least as well as Cognex[®] but without *any* specific side effects. Similar results have been reported in open studies involving persons with dementias caused by stroke or written off to the aging process. Just as importantly, a recent study reported that huperzine-A improved scores on memory tests and performance in English and Chinese language lessons in young students at the same dose.

L-Pyroglutamic Acid

L-Pyroglutamic Acid, the so-called "forgotten amino acid," is the natural molecule behind the nootropic drugs, such as piracetam, oxiracetam, and pramiracetam: these drugs are chemically "tweaked" versions of L-Pyroglutamic Acid. No one quite understands how L-Pyroglutamic Acid or the nootropics work: they don't seem to significantly affect neurotransmitter levels, they don't bind to any known receptors, and their metabolism is extremely simple, nontoxic, and "clean."

The nootropics' ability to improve learning, memory consolidation, and retrieval in normal, healthy people has been well established in clinical trials. Piracetam, which is the most widely researched of these "smart drugs," has also been found effective in dyslexia, although results in Down's syndrome and Alzheimer's disease have been inconclusive. One of the most interesting effects reported with piracetam, and believed to be universal to the nootropics, is its ability to facilitate communication between the left (verbal/logical) and right (spatial/creative) hemispheres of the brain. Subjectively, many users report that L-Pyroglutamic Acid and the nootropics "wake up the brain," although the effect is quite distinct from that of stimulants such as caffeine.

In one randomized, double-blind, placebo-controlled trial, 40 men and women with age-associated memory impairment were first run through a series of memory tests, and then took either a supplement providing 1276 milligrams of L-Pyroglutamic Acid or a look-alike pill for sixty days. At the end of the study, people taking L-Pyroglutamic Acid experienced a 37.8% improvement in their ability to remember words after a twenty-minute pause; a 17% jump in immediate recall of categorized words; a corresponding 30% boost in recall of those same words after a delay; and a 50% *lower* rate of "false positives" (wrongly "recognizing" faces that they had never seen before). People getting the placebo experienced no improvements.

- Green and black tea are said to have a positive effect on patients suffering with Alzheimer's disease as they appear to prevent the breakdown of a key chemical involved in memory.
- Opt for green tea for longer effects though - it keeps on working for a week.
- Sage - scientists aren't quite sure how, but this is believed to increase chemicals that help transmit messages in the brain.
- Another herb to help is rosemary, which can stimulate the memory, as well as strengthen mental clarity and help avoid mental fatigue

On a final note, recent research links elevated blood levels of C-reactive protein and homocysteine to increased risk of Alzheimer's disease and senile dementia (not to mention elevated risk of stroke and heart disease). These are simple blood tests that your G.P. can order for you. If your G.P. is not familiar with these tests your Naturopathic Physician can order them for you at a nominal cost. If these markers are elevated there are natural protocols that can restore them to normal in a relatively short period of time.